

REMARKS

Claims 15, 16, 21-23, 25-32, and 35-39 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 15, 16, 21-23, 25-33, and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Uchiyama (U.S. Pat. No. 6,265,770; hereinafter Uchiyama '770) in view of Uchiyama (U.S. Pat. No. 5,847,796; hereinafter Uchiyama '796). This rejection is respectfully traversed.

Claim 15 has been amended to recite a method of manufacturing a circuit board including a substrate with an output side terminal comprising a step of mounting a first component within a first region on the substrate by a solder connection, a step of arranging an anisotropic conductive film within a band region of the substrate, and a step of arranging a second component on the anisotropic conductive film. Claim 15 also recites a step of thermocompression-bonding the second component within a second region of the substrate with the anisotropic conductive film held therebetween, wherein the step of arranging the anisotropic conductive film within the band region of the substrate is performed after the step of mounting the first component on the substrate by the solder connection. Lastly, claim 15 recites that the band region is wider than the head, and the band region extends from the second region toward the output side terminal along a longitudinal direction of a pressing surface of the head.

Claim 21 has been amended in a similar manner. That is, claim 21 now recites that the band region extends from the second region toward the output side terminal along a longitudinal direction of a pressing surface of the head. Neither Uchiyama '770 nor Uchiyama '796, either singularly or in combination, teach or suggest such a method.

More specifically, the limitations of claims 15 and 21 can be seen in, for example, Figure 1 of the present invention. As shown in Figure 1, an output side terminal 4a is disposed at an edge of a substrate 10. A first region of the substrate is generally denoted at numeral A1. A band region is denoted on the substrate as numeral A3, and the claimed second region is generally denoted at numeral A2. The band region A3 extends along substrate 10 from the second region A2 toward the output side terminal 4A along a longitudinal direction of a pressing surface of the bonding head.

In contrast, the alleged band region A of Uchiyama '770 does not extend from a second region toward an output side terminal along a longitudinal direction of a pressing surface of the head. In contrast, the alleged band region A runs parallel with input terminals 9, 11 and 12. Moreover, Uchiyama '796 teaches a component 1 that is formed adjacent to input terminals 41 as shown in Figure 1. Because neither Uchiyama '770 nor Uchiyama '796 teach a band region that extends from a second region toward an output side terminal along a longitudinal direction of a pressing surface of the head, claims 15 and 21 are not obvious.

With respect to claim 35, claim 35 has been amended to recite a method of manufacturing a display device including a display panel and a circuit board, wherein the display panel includes a first substrate and the first substrate includes an external connection terminal. The circuit board also includes a second substrate and the second

substrate includes an output side terminal that is connected to the external connection terminal. The method comprises a step of mounting a plurality of first components within first regions on a surface of the second substrate by a solder connection, and a step of arranging an anisotropic conductive film on a predetermined position of the second substrate. Claim 35 also recites steps of arranging a second component on an anisotropic conductive film, and a step of thermocompression-bonding the second component within a second region of the second substrate with the anisotropic film held therebetween with a compression bonding head. Lastly, claim 35 recites that the step of arranging the anisotropic conductive film on the predetermined position of the second substrate is performed after the step of mounting the first components on the second substrate by the solder connection, and the second substrate includes a band region that extends from the second region towards the output side of the terminal between the first region. The band region includes a second component other than the first component and the band region extends along a longitudinal direction of a pressing surface of the compression bonding head. The first substrate of the display panel includes a driving IC. This configuration is shown, for example, in Figure 13 of the present application. Neither Uchiyama '770 nor Uchiyama '796 teach or suggest such a method.

More specifically, neither Uchiyama '770 nor Uchiyama '796 teach a substrate including a band region that extends from the second region towards the output side terminal as stated above. Because this aspect of the claimed invention is neither taught nor suggested by the cited prior art, Applicant respectfully asserts that the claimed invention would not have been obvious.

NEW CLAIMS

New claims 36-39 have been added. These claims are fully supported by the specification and drawings as originally filed. No new matter has been added.

New claims 36-39 are neither anticipated nor obvious in view of Uchiyama '770 and Uchiyama '796. That is, new claim 36 recites that another first component is mounted in another first region, wherein the first region and the another first region are disposed on opposing sides of the band region such that the band region extends between the first regions toward the output side terminal. As stated above under the rejection under 35 U.S.C. § 103, neither Uchiyama references teaches or suggests such a method. In contrast, these references allegedly teach band regions that run parallel to an output side terminal. The claimed invention, however, recites that the claimed band region runs toward the claimed output side terminal.

With respect to new claims 37-39 recite that the band region is narrower than a surface of the circuit board. In this manner, when mounting the claimed second component in a second region located in the band region with a thermocompression-bonding head that is narrower than the band region, there is no danger of dislodging the claimed first components with the bonding head. In contrast, Uchiyama '796, in Figure 3 for example, teaches a bonding head that is wider than the alleged band region. As stated in the Response to Arguments section of the Office Action, the Examiner has interpreted the claimed band region to be the entire surface of the substrate in Uchiyama '796. Notwithstanding, Uchiyama '796's teaching of a wide bonding head is contrary to the claimed invention because the wide bonding head may dislodge the

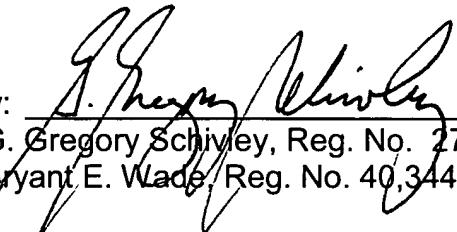
claimed first components that are mounted to the substrate prior to the second component. Because this teaches away from the claimed invention, Applicant respectfully asserts that these claims are not obvious.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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